

Work Order ID 147966

Friday, June 17, 2016 8:00:03 AM

147966

Page 1

Item ID: D3564-13

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Wearpad Fwd

Start Date: 6/23/2016 Start Qty: 6.00

6

Cust Item ID:

Required Date: 6/29/2016 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: ML3 Date: **JUN 20 2016**

Tooling:

Date:

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3564	Rev D								

100

0.01

100

FLOW WATER JET

Waterjet

Memo

0.08

FLOW CNC Waterjet

1-Cut as per Dwg D3564 Dwg Rev: D Prog Rev: D 2-
Deburr if necessary

(11)

PR 2016/06/27

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.01

Quality Control

(11)

PR/ae

120

QC8- Inspect parts - second check

0.00

120

QC

Memo

0.02

Quality Control

(11)

DAS
38
9-89

JUN 28 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER :							
Misidentified ☐	☐	Past Due	☐								

1 47966

Friday, June 17, 2016 8:00:03 AM

N900040100

Setup Start *NS1*

Stop *NS2*

6

6

Reference:

Run Start *NR1*

Stop ***NR2***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

130

130

Brake NC

Brake NC

NC BRAKE

0.01

0.02

Memo

Deburr if necessary Form on Brake as per Dwg D3564 using Jigs DT 8179

DAS
30
9-89

11

JUN 30 2016

140

140

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.02

DAS
38
9-89

72

JUL 05 2016

150

150

Powdercoat

Powder Coating

Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3

0.00

Memo

0.01

START TIME: 7:45 OVEN TEMPERATURE: 350°
FINISH TIME: 8:15

11 of 1607-12 DAS 34 990

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____ Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																

Picklist Print

Friday, June 17, 2016 8:00:03 AM

Page 1

Work Order ID: 147966

147966

Parent Item: D3564-13

D3564-13

Parent Item Name: Wearpad Fwd

Start Date: 6/23/2016

Required Date: 6/29/2016

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP Rev:A New Issue 07-03-08 ec
IPP Rev:B As per Rev C 07-07-09 JLM
IPP Rev:C As per Rev D 07-09-09 JLM Verified By:EC
IPP Rev:D Comments revised on Step 5, 6 per B44657 09-02-04 KJ
Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S16GA		Purchased		No		100	sf	242.8172	0.222	1.402105			

M304S16GA

304/316 Sheet .063

OK/PR

Location

Loc Qty

Loc Code

MAT010

164.67

m134677

6.07

m134982

158.6

TPI

78.14716

m134604

78.14716

2.8

DQA: _____ Date: _____



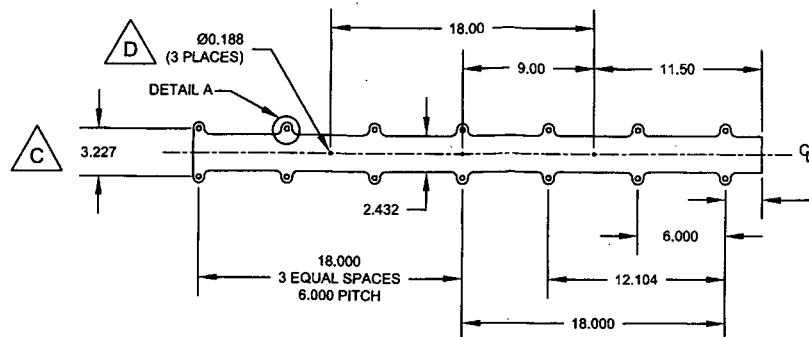
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

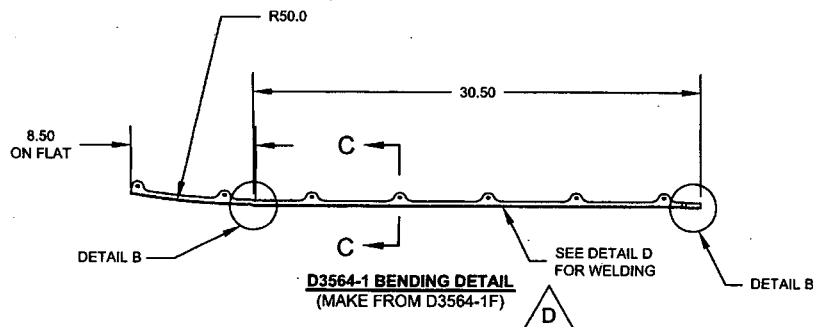
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

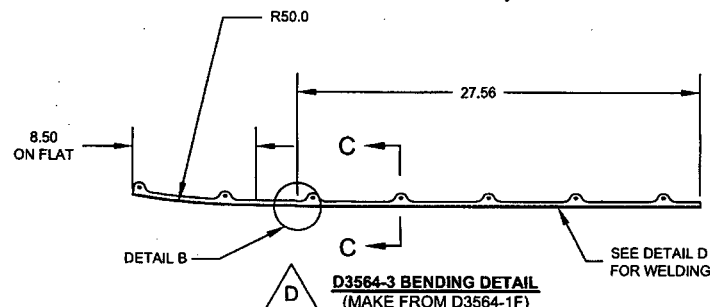
Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	OTHER :							
Misidentified ☐	☐	Past Due								



D3564-1F FLAT PATTERN



D3564-1 BENDING DETAIL
(MAKE FROM D3564-1F)



D3564-3 BENDING DETAIL
(MAKE FROM D3564-1F)

D3564-1/-3/-5/-7/-9/-11/-13/-15 WEARPLATE NOTES:

- 1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524, 16 GAUGE (0.063 THICK)
(REF DART MATERIAL SPEC M304S16GA)
- 2) FINISH: POWDER COAT GREY SANDTEX (REF 4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: SEE TABLE IN ZONE A3
- 8) WELD PER DART QSI 004
- 9) SEE PG 3 FOR SECTIONS AND DETAILS
- 10) PARTS ARE SYMMETRIC ABOUT C

WEIGHTS:

D3564-1	1.85 lbs
D3564-3	1.85 lbs
D3564-5	1.93 lbs
D3564-7	1.26 lbs
D3564-9	1.85 lbs
D3564-11	1.85 lbs
D3564-13	0.38 lbs
D3564-15	0.80 lbs

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 147966 M5
160620

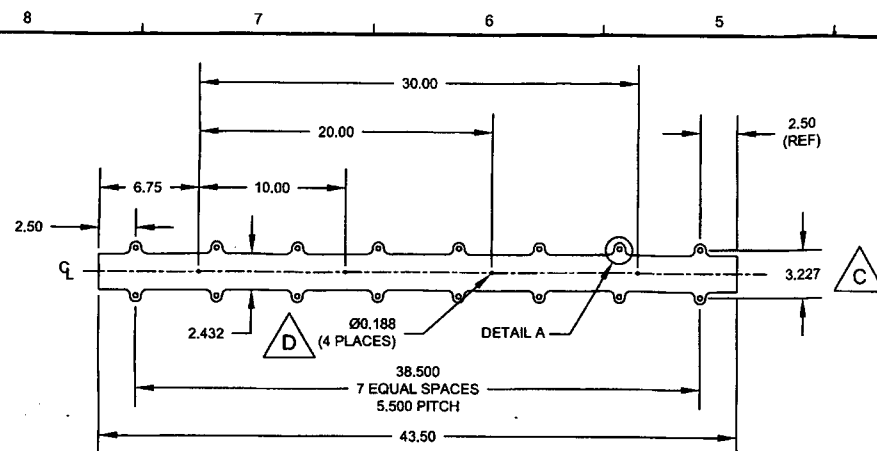
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07.09.04

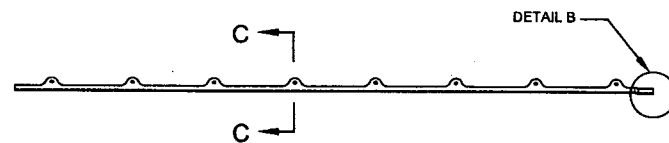
UNDER REVIEW

1.10.04
First change
OK 11.11.28

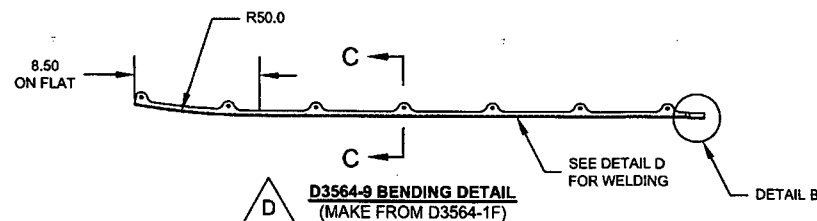
D	UPDATE DRAWING TEMPLATE; CHANGE ALL (TYP X PLS) TO (X PLACES); PG1 A8: UPDATE NOTES; PG1 A8, PG3 B5, C5: ADD D3564-15; PG1 B6, B3: D3564-1/-3 WAS ONE FIGURE; PG2 A7, A3: D3564-9/-11 WAS ONE FIGURE; PG2 A7, A3: D3564-9/-11 WAS ON PG1; PG3 B8, C8: D3564-13 WAS ON PG2; PG3 D2: WELDING DETAIL WAS ON PG1 PG3 A5, 7, B2: RELOCATE DETAILS AND SECTION; PG3 A5, 7, B2: INCREASE DETAIL AND SECTION SIZE	CB	07.08.21
C	MOVE TAB OUTBOARD, DETAIL A	PH	07.04.17
B	ADD AMS 5513 AND AMS 5524	PH	07.03.20
A	NEW ISSUE	PH	06.12.18
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	CB		
CHECKED	PH	DRAWING NO.	REV. D
MFG. APPR.	PH	D3564	SHEET 1 OF 3
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	WEARSHOE	1:8
DATE	07.08.21	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



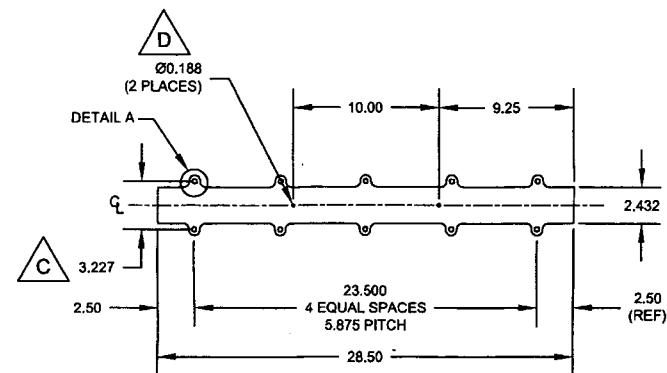
D3564-5F FLAT PATTERN



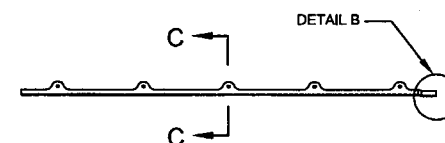
D3564-5 BENDING DETAIL
(MAKE D3564-5 FROM D3564-5F)



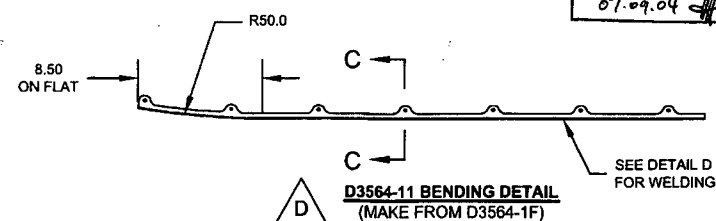
D3564-9 BENDING DETAIL
(MAKE FROM D3564-1F)



D3564-7F FLAT PATTERN



D3564-7 BENDING DETAIL
(MAKE D3564-7 FROM D3564-7F)



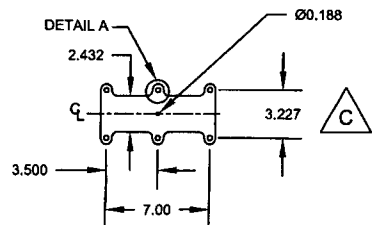
D3564-11 BENDING DETAIL
(MAKE FROM D3564-1F)

UNDER REVIEW
OK 07.11.28

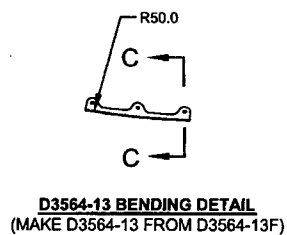
RELEASED
07.09.04

DESIGN	PH	DART AEROSPACE LTD	
DRAWN	CB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. D
MFG. APPR.	PH	D3564	SHEET 2 OF 3
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	WEARSHOE	1:8
DATE	07.08.21	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

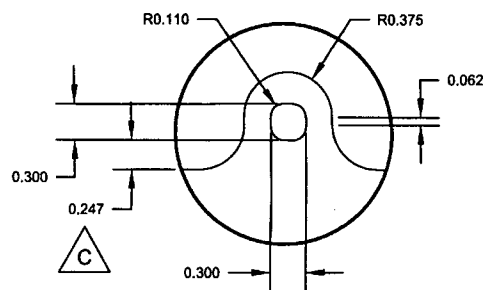
8 7 6 5 4 3 2 1



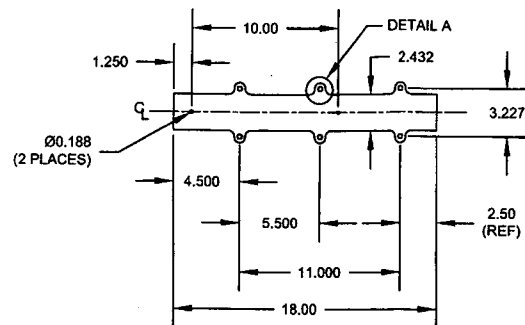
D3564-13F FLAT PATTERN



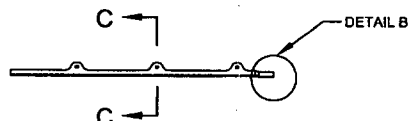
D3564-13 BENDING DETAIL
(MAKE D3564-13 FROM D3564-13F)



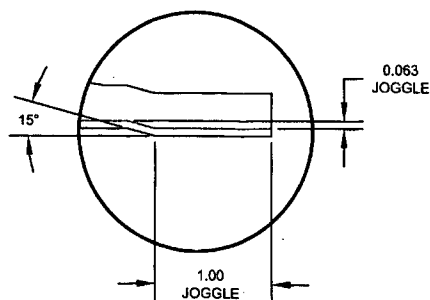
DETAIL A
SCALE 1:1



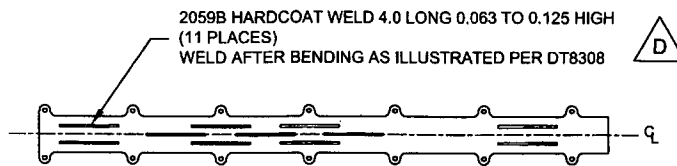
D3564-15F FLAT PATTERN



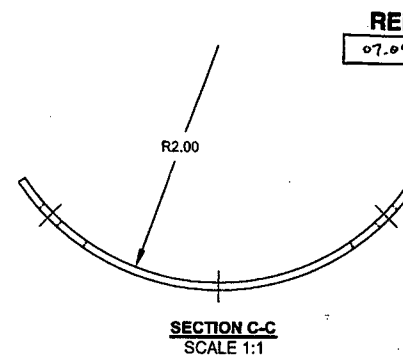
D3564-15 BENDING DETAIL
(MAKE D3564-15 FROM D3564-15F)



DETAIL B
SCALE 1:1



DETAIL D
(D3564-1/-3/-9/-11 WELDING DETAIL)



RELEASED
07.09.04

UNDER REVIEW
OK 07.11.28

DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
DRAWN	CB			
CHECKED	PH		DRAWING NO.	REV. D
MFG. APPR.	PH		D3564	SHEET 3 OF 3
APPROVED	PH		TITLE	SCALE
DE APPR.	PH		WEARSHOE	1:8
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